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Dominion®

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U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, DC 20555

Serial No.	16-233
MPS Lic/GJC	R0
Docket No.	50-423
License No.	NPF-49

DOMINION NUCLEAR CONNECTICUT, INC.
MILLSTONE POWER STATION UNIT 3
LICENSEE EVENT REPORT 2016-004-00
MANUAL REACTOR TRIP DUE TO LOW HYDROGEN GAS PRESSURE IN MAIN GENERATOR

This letter forwards Licensee Event Report (LER) 2016-004-00 documenting a condition discovered at Millstone Power Station Unit 3, on May 15, 2016. This LER is being submitted pursuant to 10 CFR 50.73(a)(2)(iv)(A) as an event that resulted in manual or automatic actuation of systems listed in 10 CFR 50.73(a)(2)(iv)(B).

If you have any questions or require additional information, please contact Mr. Jeffry A. Langan at (860) 444-5544.

Sincerely,

Craig T. Olsen
Plant Manager – Millstone

Attachments: 1

Commitments made in this letter: None

IE22
NRR

cc: U.S. Nuclear Regulatory Commission
Region I
2100 Renaissance Blvd.
Suite 100
King of Prussia, PA 19406-2713

R.V. Guzman
NRC Senior Project Manager Millstone Units 2 and 3
U.S. Nuclear Regulatory Commission
One White Flint North
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NRC Senior Resident Inspector
Millstone Power Station

ATTACHMENT

LICENSEE EVENT REPORT 2016-004-00
MANUAL REACTOR TRIP DUE TO LOW HYDROGEN GAS PRESSURE IN MAIN GENERATOR

MILLSTONE POWER STATION UNIT 3
DOMINION NUCLEAR CONNECTICUT, INC.

NRC FORM 366 (11-2015) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB: NO. 3150-0104 EXPIRES: 10/31/2018

Estimated burden per response to comply with this mandatory collection request: 80 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the FOIA, Privacy and Information Collections Branch (T-5 F53), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to Infocollects.Resource@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0104), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

LICENSEE EVENT REPORT (LER)

(See Page 2 for required number of digits/characters for each block)

1. FACILITY NAME	2. DOCKET NUMBER	3. PAGE
Millstone Power Station Unit 3	05000 423	1 OF 3

4. TITLE

Manual Reactor Trip Due to Low Hydrogen Gas Pressure In Main Generator

5. EVENT DATE			6. LER NUMBER			7. REPORT DATE			8. OTHER FACILITIES INVOLVED	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV NO.	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
										05000
05	15	2016	2016	004	00	07	13	2016	FACILITY NAME	DOCKET NUMBER 05000

9. OPERATING MODE	11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: *(Check all that apply)*			
1	☐ 20.2201(b)	☐ 20.2203(a)(3)(i)	☐ 50.73(a)(2)(ii)(A)	☐ 50.73(a)(2)(viii)(A)
	☐ 20.2201(d)	☐ 20.2203(a)(3)(ii)	☐ 50.73(a)(2)(ii)(B)	☐ 50.73(a)(2)(viii)(B)
	☐ 20.2203(a)(1)	☐ 20.2203(a)(4)	☐ 50.73(a)(2)(iii)	☐ 50.73(a)(2)(ix)(A)
	☐ 20.2203(a)(2)(i)	☐ 50.36(c)(1)(i)(A)	☑ 50.73(a)(2)(iv)(A)	☐ 50.73(a)(2)(x)
10. POWER LEVEL	☐ 20.2203(a)(2)(ii)	☐ 50.36(c)(1)(ii)(A)	☐ 50.73(a)(2)(v)(A)	☐ 73.71(a)(4)
	☐ 20.2203(a)(2)(iii)	☐ 50.36(c)(2)	☐ 50.73(a)(2)(v)(B)	☐ 73.71(a)(5)
074	☐ 20.2203(a)(2)(iv)	☐ 50.46(a)(3)(ii)	☐ 50.73(a)(2)(v)(C)	☐ 73.77(a)(1)
	☐ 20.2203(a)(2)(v)	☐ 50.73(a)(2)(i)(A)	☐ 50.73(a)(2)(v)(D)	☐ 73.77(a)(2)(i)
	☐ 20.2203(a)(2)(vi)	☐ 50.73(a)(2)(i)(B)	☐ 50.73(a)(2)(vii)	☐ 73.77(a)(2)(ii)
		☐ 50.73(a)(2)(i)(C)	☐ OTHER Specify in Abstract below or in NRC Form 366A	

12. LICENSEE CONTACT FOR THIS LER

LICENSEE CONTACT	TELEPHONE NUMBER *(Include Area Code)*
Jeffry A Langan, Manager Nuclear Station Licensing	(860) 444-5544

13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT

CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX

14. SUPPLEMENTAL REPORT EXPECTED	15. EXPECTED SUBMISSION DATE	MONTH	DAY	YEAR
☐ YES *(If yes, complete 15. EXPECTED SUBMISSION DATE)* ☑ NO				

ABSTRACT *(Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines)*

On May 15, 2016, with Millstone Power Station Unit 3 (MPS3) operating in MODE 1 at 74% power, the operators observed decreasing hydrogen pressure in the main turbine generator. Upon field investigation it was determined there was an active hydrogen leak from the main generator. The operators manually tripped the reactor and vented the hydrogen from the main generator. The reactor trip was uncomplicated. The auxiliary feedwater (AFW) pumps started as designed on low steam generator level and operators maintained steam generator level.

The active hydrogen leak was the direct cause of the manual reactor trip. The hydrogen leak was caused by a dislodged plug on a port on the main generator. MPS maintenance procedures did not contain adequate procedural guidance in that there was no specific direction for installation, i.e., torque value and verifications. The procedures will be revised to include specific direction to tighten the plugs and applicable verifications (i.e., torque value, peer checking). Additional corrective actions are being taken in accordance with the station's corrective action program.

The actuation of the RPS and the automatic start of the AFW pumps is being reported in accordance with 10 CFR 50.73 (a)(2)(iv)(A) as an event that resulted in manual or automatic actuation of systems listed in 10 CFR 50.73(a)(2)(iv)(B).

1. FACILITY NAME	2. DOCKET	6. LER NUMBER			3. PAGE
		YEAR	SEQUENTIAL NUMBER	REV NO.	
Millstone Power Station Unit 3	05000423	2016	– 004	– 00	2 of 3

1. EVENT DESCRIPTION

On May 15, 2016, with Millstone Power Station Unit 3 (MPS3) operating in MODE 1 at 74% power, the operators observed decreasing hydrogen pressure in the main generator. The operators added hydrogen but it continued to decrease. Operators in the field identified a hydrogen leak from the main generator. Due to the active hydrogen leak, at 0645 hours eastern daylight time (EDT), the operators manually tripped the reactor and vented the hydrogen from the main generator to the atmosphere. The auxiliary feedwater (AFW) pumps started as designed on low steam generator level and operators maintained steam generator level. The reactor trip was uncomplicated.

The actuation of the reactor protection system was reported in accordance with 10 CFR 50.72(b)(2)(iv)(B), as an event or condition that results in actuation of the reactor protection system (RPS) when the reactor is critical except when the actuation results from and is part of a pre-planned sequence during testing or reactor operation. The automatic start of the AFW pumps was reported in accordance with 10 CFR 50.72(b)(3)(iv)(A) as an event that resulted in manual or automatic actuation of systems listed in 10 CFR 50.72(b)(3)(iv)(B). (Event Number: 51929)

The actuation of the RPS and the automatic start of the AFW pumps is being reported in accordance with 10 CFR 50.73(a)(2)(iv)(A) as an event that resulted in manual or automatic actuation of systems listed in 10 CFR 50.73(a)(2)(iv)(B).

2. CAUSE

The active hydrogen leak was the direct cause of the manual reactor trip. The hydrogen leak was caused by a dislodged plug from a port on the main generator. MPS procedures did not contain adequate procedural guidance in that there was no specific direction for installation of the plug, i.e., torque value and verifications.

3. ASSESSMENT OF SAFETY CONSEQUENCES

The operating crew responded to decreasing hydrogen pressure in the main generator as directed by approved procedures. The reactor was at 74% power. All control rods fully inserted into the reactor and all emergency systems functioned as designed. There were no radiological challenges as a result of the event. There were no detrimental effects to station equipment. No safety limits were exceeded. The operator actions and plant mitigating equipment responded as expected with no safety system failures. There were no challenges to any fission product barrier. Therefore, there were no safety consequences as the result of the reactor trip.

4. CORRECTIVE ACTION

The plug was properly re-installed. Maintenance procedures will be revised to include specific direction to install the outer end shield pipe plugs and sealant and include direction to tighten the plugs and applicable verifications (i.e., torque value, peer checking). Additional corrective actions are being taken in accordance with the station's corrective action program.

5. PREVIOUS OCCURRENCES

NONE

6. Energy Industry Identification System (EIIS) codes

- Reactor Coolant System – AB
- Auxiliary/Emergency Feedwater System – BA
- Main Generator System – TB
- Main Generator Hydrogen Cooling System – TK
- Turbine – TRB
- Pump – P
- Valve – V